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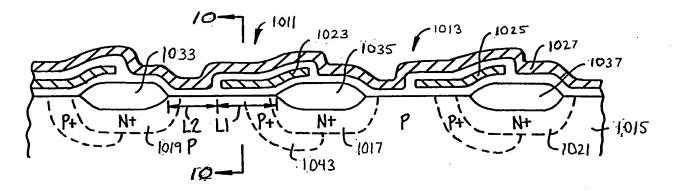
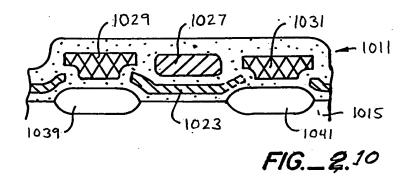
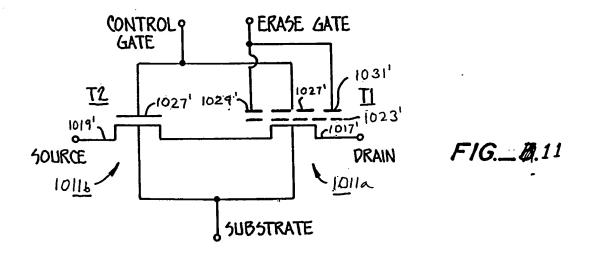


FIG.\_E9





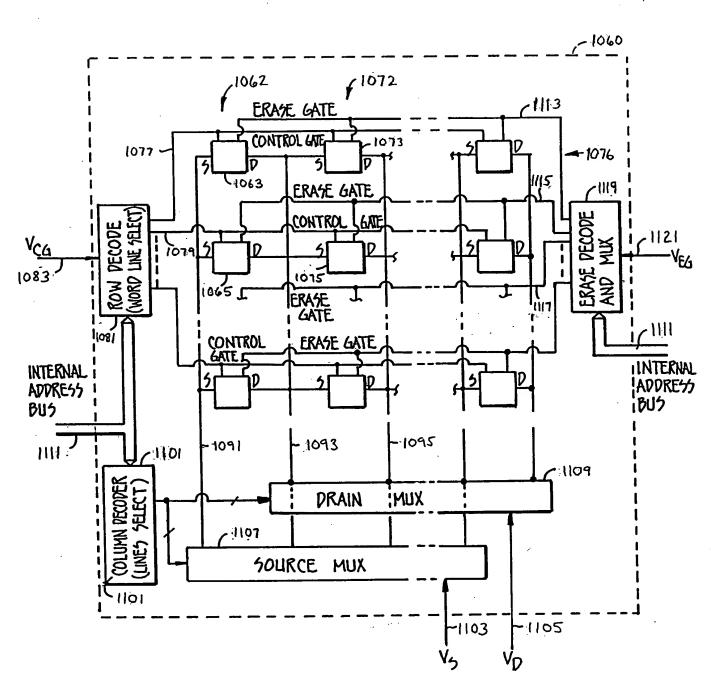
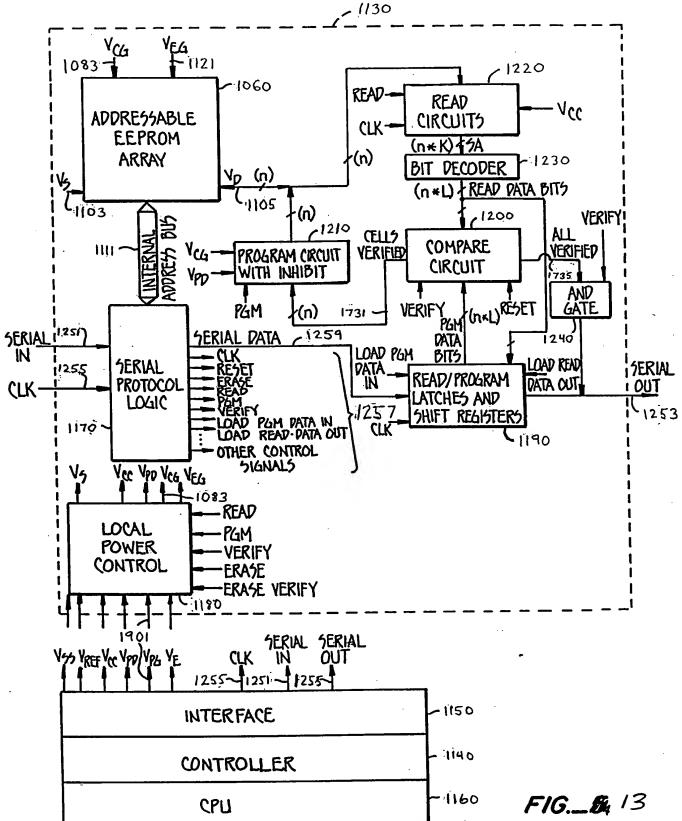


FIG.\_4, 12.





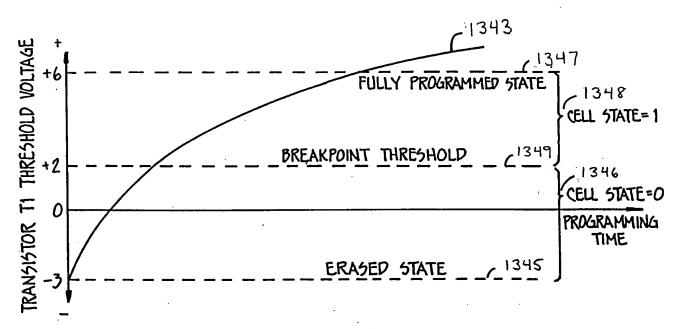


FIG.\_B: 14.

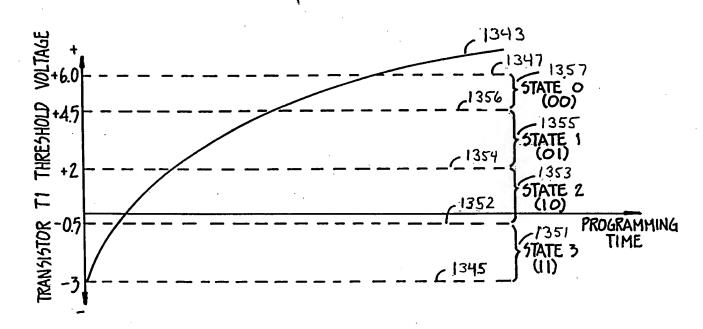
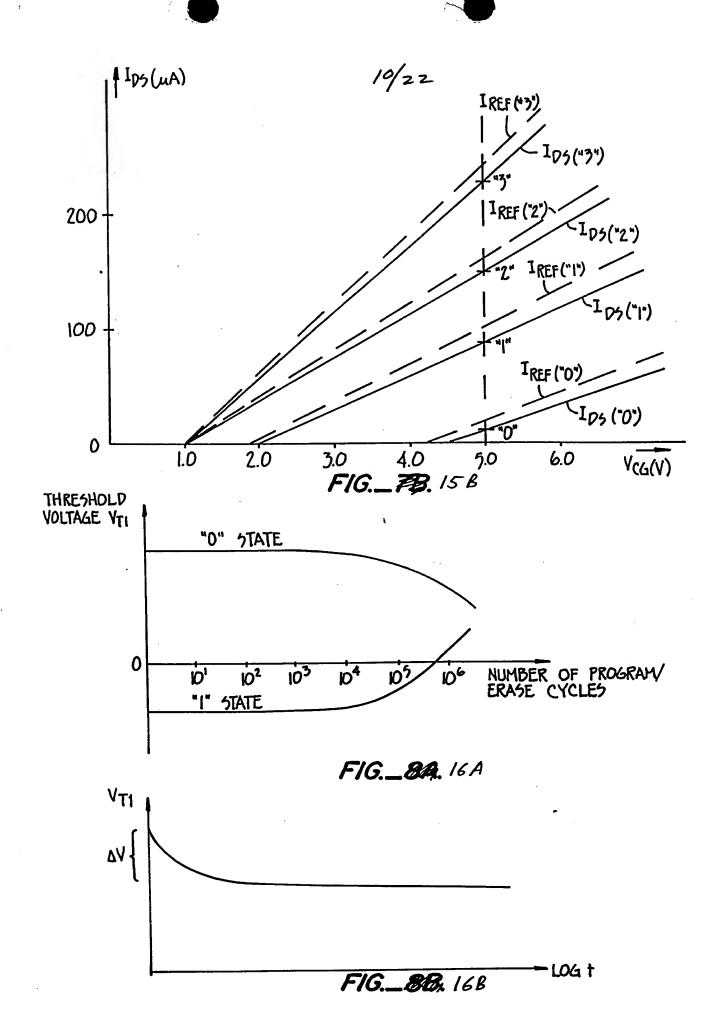


FIG.\_74, 15 A



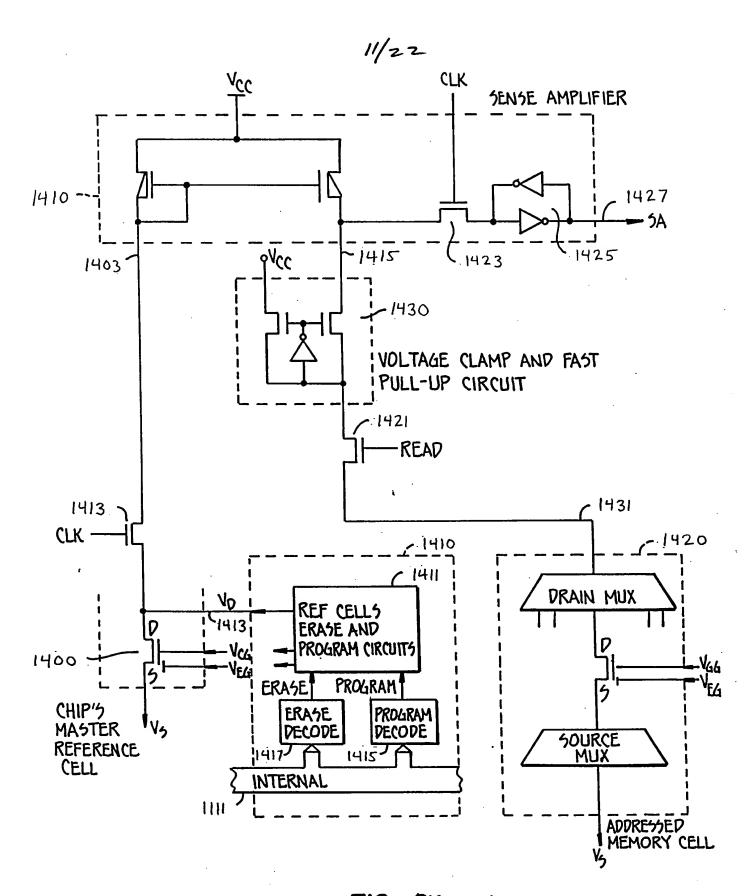


FIG.\_814.17 A

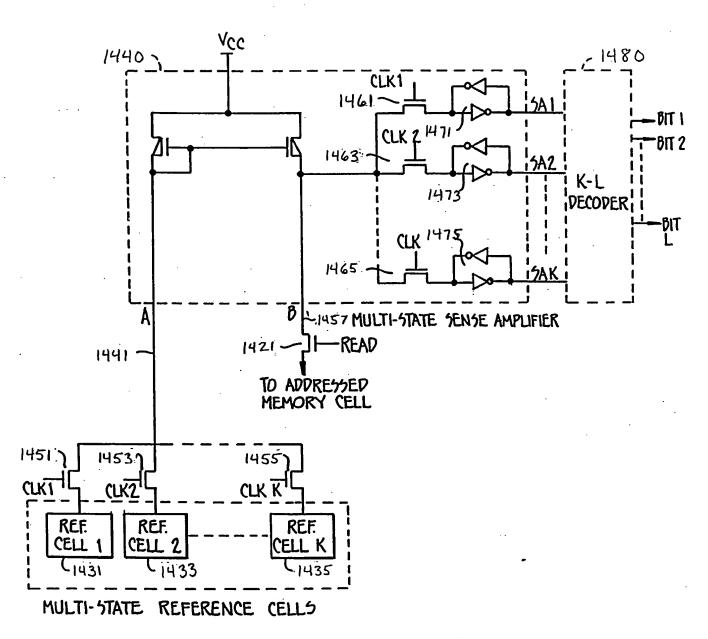


FIG.\_98. 178

(1) READ
(2) CLK1
(3) CLK2
(4) CLK K
(5) 5A1
(6) 5A2
::
(7) 5AK
(8) BIT5 1-L

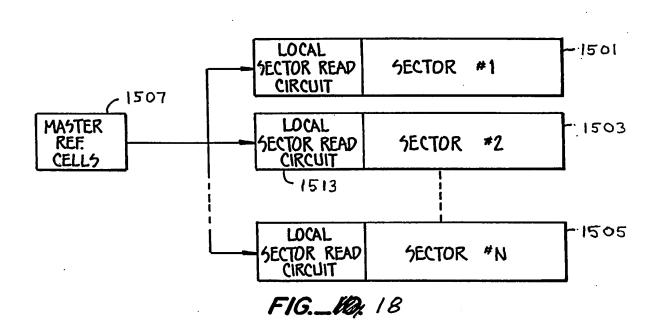


FIG.\_BO. 17C

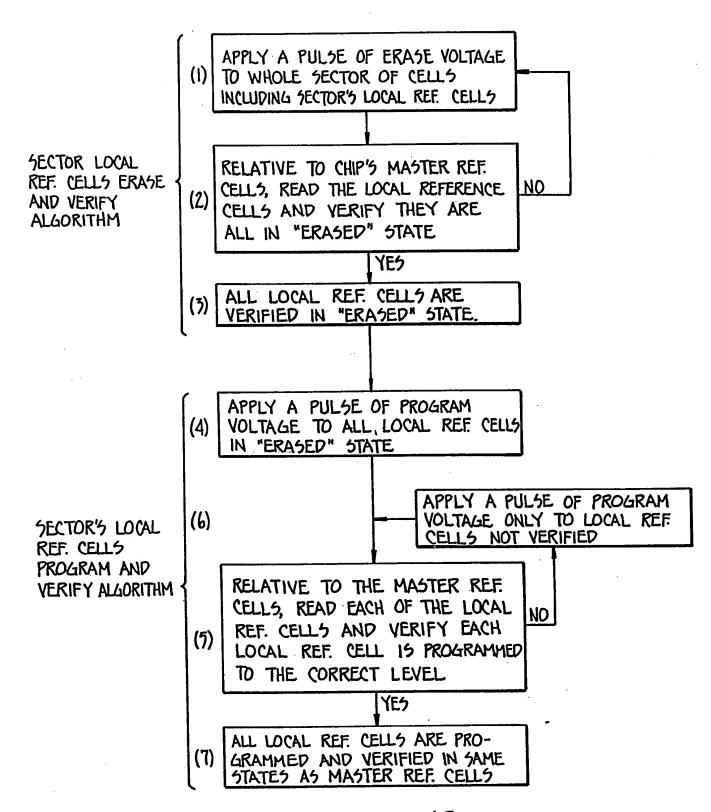
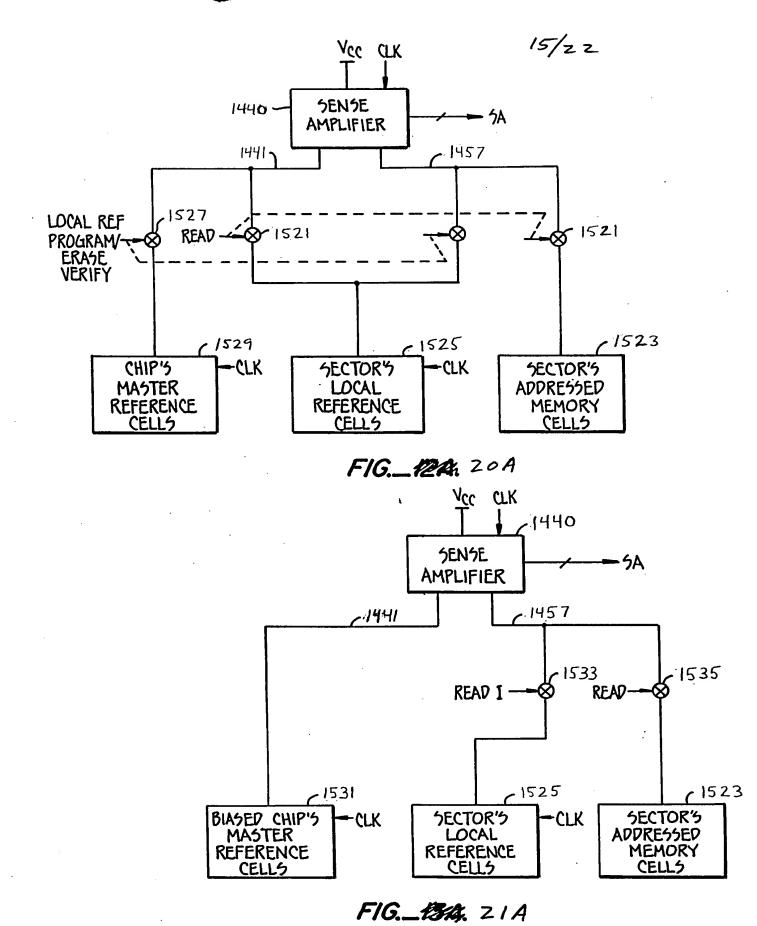
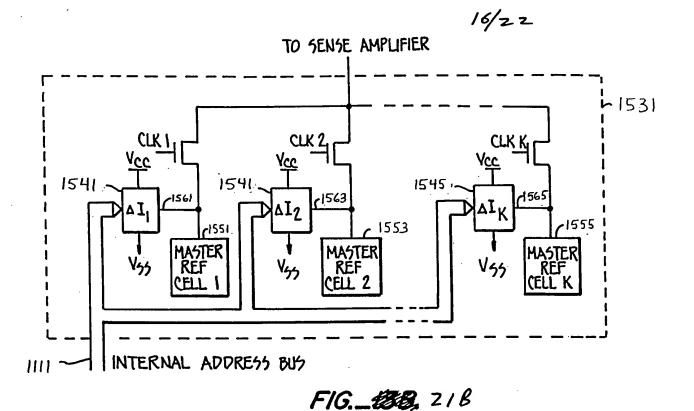
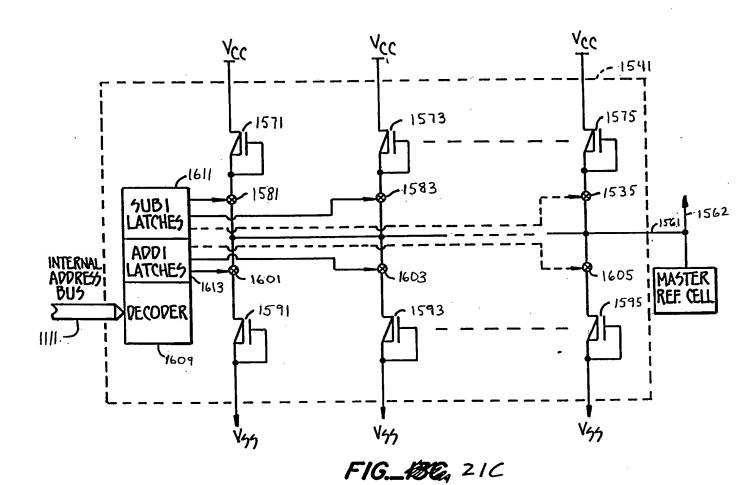


FIG.\_# 19





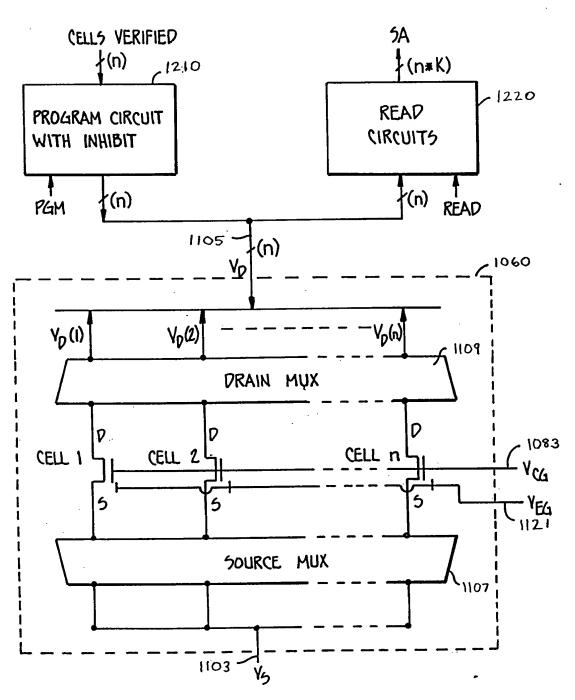


LOCAL REF. CELLS ARE PREVIOUSLY PROGRAMMED AND VERIFIED IN SAME STATES AS MASTER REF. CELLS

RELATIVE TO THE LOCAL REF. CELLS, READ THE ADDRESSED CELLS

FIG.\_12B, 20B

- (1) LOCAL REF. CELLS ARE PREVIOUSLY PROGRAMMED AND VERIFIED IN SAME STATES AS MASTER REF. CELLS
- (2) RELATIVE TO THE LOCAL REFERENCE CELLS READ THE MASTER REF. CELLS
- OETERMINE THE DIFFERENCES, IF ANY AND BIAS. THE MASTER REF CELLS' CURRENTS SUCH THAT THE SAME READING IS OBTAINED RELATIVE TO THE BIASED MASTER REF. CELLS AS RELATIVE TO THE LOCAL REF. CELLS
- (4) RELATIVE TO THE BIASED MASTER REF. CELLS, READ THE ADDRESSED CELLS



READ/PROGRAM DATA PATHS FOR n CELLS IN PARALLEL

FIG. B 22.

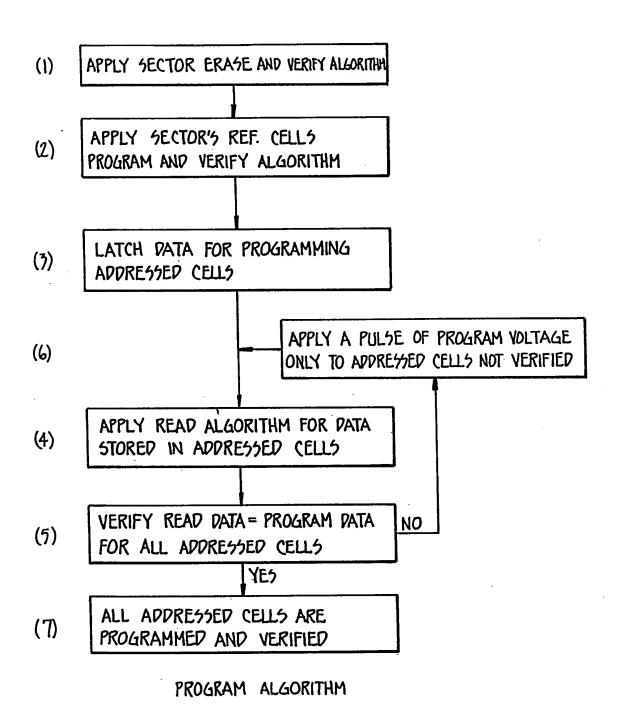


FIG.\_15. 23

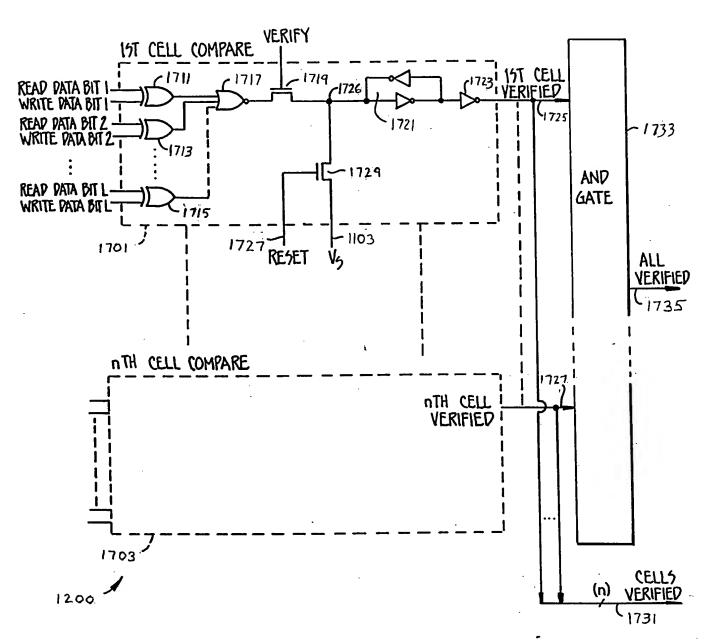


FIG.\_15. 24

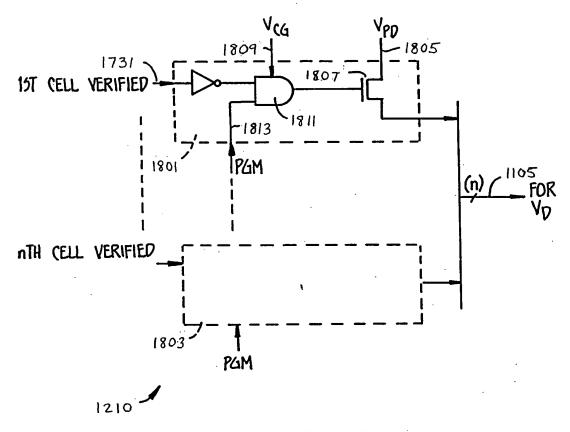


FIG.\_ \$\overline{\beta}\$. 25



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	SELECTED CONTROL	DRAIN V <sub>D</sub>	SOURCE V <sub>s</sub>	ERASE GATE V <sub>EG</sub>
READ	$V_{PG}$	$V_{ m REF}$	$v_{ss}$	V <sub>E</sub>
PROGRAM	V <sub>PG</sub>	$V_{PD}$	$V_{ss}$	V <sub>E</sub>
PROGRAM VERIFY	$ m V_{PG}$	V <sub>REF</sub>	$\mathbf{v}_{ss}$	V <sub>E</sub>
ERASE	$V_{PG}$	$V_{ m ref}$	V <sub>ss</sub>	V <sub>E</sub>
ERASE VERIFY	$V_{PG}$	, $V_{ m REF}$	V <sub>ss</sub>	V <sub>E</sub>

## TABILETA FIG. 26

(typical values)	READ	PROGRAM	PROGRAM VERIFY	ERASE	ERASE VERIFY
V <sub>PG</sub> .	V <sub>cc</sub>	12v	v <sub>cc</sub> +δv	$v_{cc}$	V <sub>cc</sub> -δV
V <sub>cc</sub>	5 <b>v</b>	5 <b>v</b>	5 <b>v</b>	5 <b>v</b>	5 <b>v</b>
V <sub>PD</sub>	V <sub>ss</sub>	8 <b>v</b>	8 <b>v</b>	V <sub>ss</sub>	V <sub>ss</sub>
V <sub>E</sub>	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>	20 <b>v</b>	V <sub>ss</sub>
unselected control gate	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>	V <sub>ss</sub>
unselected bit line	V <sub>REF</sub>	V <sub>REF</sub>	V <sub>REF</sub>	V <sub>REF</sub>	V <sub>REF</sub>

V<sub>SS</sub>=0V, V<sub>REF</sub>=1.5V, δV=0.5V - 1V